

dunetpc - Feature #14712

Convert protodune detsim to use the new detsim

11/30/2016 07:43 AM - David Adams

Status:	Closed	Start date:	11/30/2016
Priority:	Normal	Due date:	
Assignee:	Robert Sulej	% Done:	100%
Category:		Estimated time:	0.00 hour
Target version:			
Description			
The detsim options for protodune are dunetpc/fcl/protodune/detsim/protoDUNE_detsim_single.fcl.			
We should update these to use the new detsim module SimWireDUNE instead of SimWireDUNE10kt.			

History

#1 - 12/03/2016 08:54 AM - Robert Sulej

- % Done changed from 0 to 50

Detsim FHiCL is updated and pushed: protoDUNE_detsim.fcl
I will delete the old one (protoDUNE_detsim_single.fcl) when we have everything tested.
I updated also event display configs, so everything gets displayed nicely in raw ADC.

Some questions, about noise simulation with ExponentialChannelNoiseService:
- NoiseNormU/V/Z scales up and down exponential noise only or white noise as well?
- NoiseWidthU/V/Z scales automatically with the length of ADC waveform (so longer or shorter drift window will have the same noise spectrum, regardless of using FFT's on different length vectors)?

I will close the ticket when we test all the signal amplitudes (tomorrow) and add FHiCLs for noisy simulations.

Cheers,
Robert

#2 - 12/03/2016 02:11 PM - Robert Sulej

- Status changed from Assigned to Work in progress

...switched to DataPrep module in ProtoDUNE wire reco.

#3 - 12/05/2016 07:44 AM - David Adams

NoiseNorm only changes the exponential level.

I think the width should not depend on the drift window but you may want to check this.

#4 - 12/05/2016 09:44 AM - Robert Sulej

- Status changed from Work in progress to Closed

- % Done changed from 50 to 100

Thank you David.

I think we have the new detsim tested. I close the ticket, in case of any issue, please, reopen.

Cheers,
Robert